

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-4 and 6-10 are pending in the application, with claims 1 and 10 being the independent claims. Claim 5 is cancelled without prejudice to or disclaimer of the subject matter therein.

Claims 1 and 10 were rejected as anticipated by U.S. Patent 5,485,571 to Menon. Dependent claims 2-9 were rejected as obvious based on the Menon disclosure. These rejections are respectfully traversed in view of the above amendments and the following remarks.

Menon appears to disclose a RAID array where data regions, parity regions, and spare regions are placed across a plurality of disks to provide a uniform workload distribution and to allow rebuilding the array without a loss of redundancy in case of a single disk failure, or a series of single disk failures. Menon discloses a system where spare regions are disposed in a helical pattern across the disks (see col. 7 lines 1-15, and blocks denoted with "S" in Figs. 4-15). An embodiment for dealing with multiple failures, shown for example in Fig. 15 of Menon, has additional sections of spare blocks denoted with "Z". These spare blocks are also disposed helically across the disks.

The pending claims have been amended to recite that "F contiguous free blocks" of hot spare space are allocated to "each of the D disk drives at an end of said drives, where $N + F \leq B$, and $((D - M) \times F) \geq N$" The Menon patent neither discloses nor suggests a contiguous allocation of hot spare space, nor the location of this space at the end of the drive.

The disclosed method of establishing free space areas on a plurality of disks, and rebuilding these disks using that free space, provides particular advantages, resulting in an array that not only handles multiple concurrent failures, but also keeps standby disk space active, resulting in better performance, and preventing undetected failure of a standby disk that is not in use. These advantages are explained in detail at pages 3, 6, and 11-12 of the specification.

The assertions in the Office Action regarding Menon are respectfully traversed, but will not be addressed in detail since they are moot in view of the above amendments.

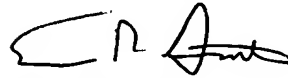
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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